Amendment to the Claims

1. (currently amended) A recombinant bistable genetic toggle switch that is capable of being stable in a first state or in a second state in the absence of a switching agent, the toggle switch comprising:

(a) a first nucleic acid construct comprising a first promoter operably associated with a first gene encoding a first repressor protein, wherein transcription from the first promoter is active in the absence of a repressor; and

(b) a second nucleic acid construct comprising a second promoter operably associated with a second gene encoding a second repressor protein, wherein transcription from the first promoter is active in the absence of a repressor, and wherein the second repressor protein, when produced, is capable of repressing transcription from the first promoter, and wherein repression of the first promoter by the second repressor protein is reducible by a first switching agent, and wherein the first repressor protein, when produced, is capable of repressing transcription from the second promoter, and wherein repression of the second promoter by the first repressor protein is reducible by a second switching agent, and wherein components of the bistable genetic toggle switch are selected so that the first switching agent causes the toggle switch to switch from a second stable state to a first stable state and the second switching agent causes the toggle switch to switch from a first stable state to a second stable state.

2. (original) The toggle switch of claim 1, wherein repression of the first promoter by the second repressor is reduced by the first switching agent such that transcription of the first gene by the first promoter is derepressed thereby causing the toggle switch to be in the first state.

3. (original) The toggle switch of claim 2, wherein transcription of the first gene by the first promoter is derepressed by transient application of the first switching agent.

4. (original) The toggle switch of claim 1 or 2, wherein repression of the second promoter by the first repressor is reduced by the second switching agent such that transcription of the second gene by the second promoter is derepressed thereby causing the toggle switch to be in the second state.

5. (original) The toggle switch of claim 4, wherein transcription of the second gene by the second promoter is derepressed by transient application of the second switching agent.

6. (original) The toggle switch of claim 1, wherein the first construct further comprises a third gene encoding a protein of interest, wherein the third gene is in operable association with the first promoter.

7. (original) The toggle switch of claim 6, wherein transcription of the third gene increases upon application of the first switching agent.

8. (original) The toggle switch of claim 1 or 6, wherein the second construct further comprises a fourth gene encoding a protein of interest, wherein the fourth gene is in operable association with the second promoter.

9. (original) The toggle switch of claim 8, wherein transcription of the fourth gene increases upon application of the second switching agent.

10. (previously presented) The toggle switch of claim 1, wherein the first and second constructs are comprised within a single contiguous nucleic acid sequence.

11. (previously presented) The toggle switch of claim 1, wherein the first promoter, the second promoter or both the first and second promoters are each in operable association with an operator.

12. (currently amended) An isolated [[A]] host cell harboring the toggle switch of claim 1.

13. (currently amended) An isolated host cell harboring the toggle switch of claim 1 ~~The host cell of claim 12~~, wherein the host cell is a prokaryotic cell.

14. (original) The host cell of claim 13, wherein the prokaryotic cell is *Escherichia coli.*

15. (original) The host cell of claim 12, wherein the host cell is a eukaryotic cell.

16. (original) The host cell of claim 15, wherein the eukaryotic cell is a mammalian cell or a yeast cell.

17 – 30. (cancelled)